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EXAMINER	
PILKINGTON, JAMES	
ART UNIT	**PAPER NUMBER**
3656	

NOTIFICATION DATE	DELIVERY MODE
09/24/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/529,283	PANG, ZIJING	
	Examiner	Art Unit	
	JAMES PILKINGTON	3656	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 July 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,5-9 and 21-31* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,5-9 and 21-31* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *03 November 2008* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

Claims 22-26, 28 and 29 are objected to for being dependent from canceled claims. For the purpose of examination the following assumptions are being made: Claim 22 should depend from 21, Claim 23 should depend from 22, Claims 24 and 25 should both depend from 23, Claim 26 should depend from 22, and Claims 28 and 29 should both depend from 27.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 26, 30 and 31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 26 recites the limitation "adapted to turn back" in line 2. It is not clear what Applicant means by the phrase "turn back." Is the bull gear rotated in reverse or by "turn back" does the Applicant mean that the key is being adjusted to move the bull gear away from the rotor?

Claim 30 recites the limitation "the bull gear body" in line 7. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 8 is rejected under 35 U.S.C. 102(b) as being anticipated by Widdrington, USP 3,252,349.

Widdrington discloses a device comprising at least two driving units (14 and 15) symmetrically arranged around the driven device (mechanism) for evenly rotating the driven device, wherein each of the driving units (14 and 15) is connected to a frame (13) through a substantially elastic support (11a-11c, everything has an elastic property).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1 and 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Widdrington, USP 3,252,349 in view of Kiernan, USP 3,407,681 and further in view of CN 99222132.3.

Widdrington discloses an elastic couple rotor turning gear, characterized in that:

- a substantially elastic support (11a, 11b and 11c, everything has an elastic property) is mounted on a frame (13) of a driven device (device is a drive mechanism)
- a casing (11d, 11e and 18a) with a U-shaped cross section being connected to the substantially elastic support (11a, 11b and 11c) for providing a substantially elastic connection between the frame (13) of the driven device and the elastic couple rotor turning gear
- a casing cover (16) being firmly fixed on the casing (on portion 11d)
- a plurality speed reducer (see left and right of Figure 4 within units 14 and 15) and an each with an electric motor (see Figures 9 and 10, discloses that each drive unit can have its own motor 74 or 66) installed evenly or symmetrically positioned at an angle of 180° (see Figure 4)
- each speed reducer having an output shaft (20) of the speed reducer (21/22) extending into the casing (11d, 11e and 18a, extends into portion 18a) under the casing cover (16)
- the output shaft having a pinion gear (19) mounted thereon and meshed with a gear body (teeth on 10) of a bull gear (10) positioned in the casing (11d, 11e and 18a), the bull gear being engaged with a shaft coupling (26) and the shaft coupling being fixed on a rotor of the driven device (26 and 27 make the connection to the load, element providing torque resistance)

- wherein the shaft coupling (26) is of an integral type, and the shaft coupling (26) is connected to the rotor of the driven device through a plurality of radial linkages (27)
- wherein an axial sliding clearance (under gear 10, see space on left of Figure 3) and a radial sliding clearance (the radial side of the gear is connected via a bearing 12 which creates a clearance) are formed between the gear body (teeth of 10) of the bull gear (10) positioned inside the casing and the casing (11d, 11e and 18a).

Widdrington does not disclose that the bull gear and the shaft coupling are connected through keys via a key seat or an upright post, wherein an air clearance is formed between an inner round wall of the bull gear and the shaft coupling, and three screws (15) for adjusting concentricity are evenly distributed along a circumference of the shaft coupling, and wherein the bull gear includes a key seat.

Kiernan teaches a bull gear (2) and a coupling (6) that are connected through keys (pins labeled as 8) via a key seat (hole in 6), wherein an air clearance (between back of 2 and 6) is formed between an inner round wall (back wall) of the bull gear (2) and the shaft coupling (6), and three screws (screws labeled 8) for adjusting concentricity are evenly distributed along a circumference of the shaft coupling and wherein the bull gear (2) includes a key seat (hole for pins and screws 8).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the fixed connection between the shaft coupling and the gear of Widdrington with the keys, screws and key seat coupling of Kiernan since

substitution of one attachment with another would achieve the predictable result of connecting the gear to the coupling.

Widdrington in view of Kiernan discloses all of the claimed subject matter as disclosed above.

Widdrington does not disclose that the substantially elastic support includes an upper ring and a lower ring, the upper ring being connected to the lower ring through a plurality of substantially elastic ribs and wherein the plurality of substantially elastic ribs are made of an elastic material and rectangular in cross section.

CN 99222132.3 teaches a substantially elastic support which includes an upper ring (to the right of 4 in Figure 1) and a lower ring (to the left of 4 in Figure 1), the upper ring being connected to the lower ring through a plurality of substantially elastic ribs (at 4) and wherein the plurality of substantially elastic ribs are made of an elastic material and rectangular in cross section.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the substantially elastic support of CN99222132.3 in place of the substantially elastic support of Widdrington. Substituting the elastic support of Widdrington in view of Kiernan with the rib type elastic support of CN99222132.3 would yield the predictable result of removing rigidity of the device so that it can withstand more of a shock load.

Claims 9, 21-23 and 26-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Widdrington, USP 3,252,349 in view of CN 99222132.3.

Widdrington discloses all of the claimed subject mater as discussed above. Widdrington further discloses:

- wherein the bull gear (10) is connected to a rotor (moving part) of the driven device through a shaft coupling (26)
- each of the drive units (14 and 15) comprises a pinion gear (19) adapted to mesh with a bull gear body (teeth) of a bull gear (10)
- wherein the bull gear is adapted to turn back so as to remove the rotor from an external force (the bull gear can be removed so no force will be on the rotor)
- each of the drive units comprise a casing (18a, see Figure 3a) and a cover (bottom plate in Figure 3a) forming an enclosure accommodating the pinion gear (19) and the bull gear body (teeth are inside housing to mesh with pinion)
- wherein an axial sliding clearance (under gear 10, see space on left of Figure 3) and a radial sliding clearance (the radial side of the gear is connected via a bearing 12 which creates a clearance) are formed between the bull gear body (teeth) and the casing (bearing and spacing between connecting teeth allows for sliding clearance in both the radial and axial directions).

Widdrington does not disclose that the substantially elastic support includes an upper ring and a lower ring, the upper ring being connected to the lower ring through a plurality of substantially elastic ribs and wherein casing is connected to the upper ring and the lower ring is connected to the frame.

CN 99222132.3 teaches a substantially elastic support which includes an upper ring (to the right of 4 in Figure 1) and a lower ring (to the left of 4 in Figure 1), the upper ring being connected to the lower ring through a plurality of substantially elastic ribs (at 4) and wherein casing (gear/motor unit) is connected to the upper ring and the lower ring is connected to the frame (7/17).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the substantially elastic support of CN99222132.3 in place of the substantially elastic support of Widdrington. Substituting the elastic support of Widdrington with the rib type elastic support of CN99222132.3 would yield the predictable result of removing rigidity of the device so that it can withstand more of a shock load.

Claims 24 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Widdrington, USP 3,252,349 in view of CN 99222132.3 and further in view of Kiernan, USP 3,407,681.

Widdrington in view of CN 99222132.3 discloses all of the claimed subject matter as disclosed above.

Widdrington does not disclose that the bull gear and the shaft coupling are connected through keys via a key seat or an upright post and wherein an air clearance is formed between an inner round wall of the bull gear and the shaft coupling, and three screws (15) for adjusting concentricity are evenly distributed along a circumference of the shaft coupling.

Kiernan teaches a bull gear (2) and a coupling (6) that are connected through keys (pins labeled as 8) via a key seat (hole in 6), and wherein an air clearance (between back of 2 and 6) is formed between an inner round wall (back wall) of the bull gear (2) and the shaft coupling (6), and three screws (screws labeled 8) for adjusting concentricity are evenly distributed along a circumference of the shaft coupling.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the fixed connection between the shaft coupling and the gear of Widdrington with the keys, screws and key seat coupling of Kiernan since substitution of one attachment with another would achieve the predictable result of connecting the gear to the coupling.

Claims 30 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Widdrington, USP 3,252,349 in view of Kiernan, USP 3,407,681 and further in view of CN 99222132.3.

Widdrington discloses:

- at least two pinion gears (19, one for each motor assembly) symmetrically arranged around the driven device, each adapted to mesh with a bul gear (10), said bull gear (10) being adapted to drive a rotor (rotating device)
- a casing (18a, see Figure 3a) and a casing cover (bottom plate in Figure 3a) forming a housing accommodating the pinion gears (19) and the bull gear body (teeth are inside housing to mesh with pinion)
- a substantially elastic support (11a, 11b and 11c, everything has an elastic property) is mounted on a frame (13) of a driven device (device is a drive mechanism)
- at lest two electric motors (see Figures 9 and 10 showing an individual motor for each drive unit/pinion assembly), each driving a corresponding pinion gear through an output shaft of a speed reducer (output of gear train) mounted on the casing cover.

Widdrington does not disclose that the bull gear and the shaft coupling are connected through keys via a key seat or an upright post, wherein an air clearance is formed between an inner round wall of the bull gear and the shaft coupling, and three screws (15) for adjusting concentricity are evenly distributed along a circumference of the shaft coupling, and wherein the bull gear includes a key seat.

Kiernan teaches a bull gear (2) and a coupling (6) that are connected through keys (pins labeled as 8) via a key seat (hole in 6), wherein an air clearance (between back of 2 and 6) is formed between an inner round wall (back wall) of the bull gear (2)

and the shaft coupling (6), and three screws (screws labeled 8) for adjusting concentricity are evenly distributed along a circumference of the shaft coupling and wherein the bull gear (2) includes a key seat (hole for pins and screws 8).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the fixed connection between the shaft coupling and the gear of Widdrington with the keys, screws and key seat coupling of Kiernan since substitution of one attachment with another would achieve the predictable result of connecting the gear to the coupling.

Widdrington does not disclose that the substantially elastic support includes an upper ring and a lower ring, the upper ring being connected to the lower ring through a plurality of substantially elastic ribs and wherein casing is connected to the upper ring and the lower ring is connected to the frame.

CN 99222132.3 teaches a substantially elastic support which includes an upper ring (to the right of 4 in Figure 1) and a lower ring (to the left of 4 in Figure 1), the upper ring being connected to the lower ring through a plurality of substantially elastic ribs (at 4) and wherein casing (gear/motor unit) is connected to the upper ring and the lower ring is connected to the frame (7/17).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the substantially elastic support of CN99222132.3 in place of the substantially elastic support of Widdrington. Substituting the elastic support of Widdrington with the rib type elastic support of CN99222132.3 would yield the

predictable result of removing rigidity of the device so that it can withstand more of a shock load.

Response to Arguments

Applicant's arguments filed July 21, 2009 have been fully considered but they are not persuasive.

The Applicant is arguing the limitation "substantially elastic" and is taking the position that broad meaning for elastic, everything has an elastic property, is not proper in construing of the claim. However, the specification and claims contain no disclosure for what the Applicant intended for the phrase "substantially elastic" to be defined as in the original filing nor has the Applicant provided any definition for this term. Since everything has an elastic property, see any stress-strain curve below the yield point is the elastic region of the material, as broadly defined Widdrington and CN92221132.3 discloses an elastic member.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAMES PILKINGTON whose telephone number is (571)272-5052. The examiner can normally be reached on Monday-Friday 8:00AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Ridley can be reached on (571) 272-6917. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JAMES PILKINGTON/

Examiner, Art Unit 3656

9/18/09

/Thomas R. Hannon/

Primary Examiner, Art Unit 3656